Contents

Preface vii

Scientific Committee ix

Organizing Committee x

Experimental and computational aerodynamics

Some features of modeling spectral characteristics of flow in boundary layer wind tunnels
R.K. Garg (Ghaziabad, India), J.X. Lou, M. Kasperski (Bochum, Germany) 1
Force and pressure measurements on a rough cone in turbulent shear flow
R.G.J. Flay (Auckland, New Zealand), B.J. Vickery (London, Canada) 13
Local severe suctions on the side of a prism model on a field
Y. Okuda, J. Katsura (Gokasho, Japan), S. Kawamara (Osaka, Japan) 23
CFD analysis of wind-structure interaction for oscillating square cylinders
S. Murakami (Tokyo, Japan), A. Mochida (Niigata, Japan), S. Sakamoto (Yokohama, Japan) 33
A wake model for two-dimensional (sharp-edged) bluff bodies
H. Hangan, B.J. Vickery (London, Canada) 47
Wake interference between two circular cylinders
D. Brika, A. Laneville (Sherbrooke, Canada) 61
Modelling wind-induced interference effects using backpropagation neural networks
A.C. Khanduri, C. Bédard, T. Stathopoulos (Montreal, Canada) 71
The use of the maximum entropy method for the spectral analysis of wind-induced data recorded on buildings
H. Cao (USA), B.R. Ellis, J.D. Littler (Garston, UK) 81
Computer simulation of non-Gaussian multiple wind pressure time series
S.H. Seong, J.A. Peterka (Fort Collins, USA) 95
Numerical modelling of gust effect on wind-driven rain
E.C.C. Choi (Singapore) 107
A puff algorithm for predicting pollutant dispersion based on ABL parameterization
P. Kumar, R.P. Mathur, P.K. Pande, P.N. Godbole (Roorkee, India) 117
Computation of rain falling on a tall rectangular building
R. Sankaran (North Ryde, Australia), D.A. Paterson (Highett, Australia) 127

Measurements and computations on buildings and towers

A new technique for the numerical simulation of wind flow around buildings
Y. Zhou (Hong Kong, China), T. Stathopoulos (Montreal, Canada) 137
Computational modelling of the transient response of building internal pressure to a sudden opening
R.N. Sharma, P.J. Richards (Auckland, New Zealand) 149
Internal pressures in a low-rise full-scale building
J.D. Ginger (Townsville, Australia), K.C. Mehta (Lubbock, USA), B.B. Yeatts (Dallas, USA) 163
The effect of roof flexibility on internal pressure fluctuations
R.N. Sharma, P.J. Richards (Auckland, New Zealand) 175
The Silsoe Structures Building: Comparisons of pressures measured at full scale and in two wind tunnels
G.M. Richardson, R.P. Hoxey, A.P. Robertson, J.L. Short (Silsoe, UK) 187
Unsteady aerodynamic force measurements on a super-tall building with a tapered cross section
K.R. Cooper (Ottawa, Canada), M. Nakayama, Y. Sasaki (Yokohama, Japan), A.A. Fediw, S. Resende-Ide, S.J. Zan (Ottawa, Canada) 199

A study on the nonstationarity in wind and wind-induced response of tall buildings for adaptive active control
R. Adhikari (La Jolla. USA), H. Yamaguchi (Shimo-Okko, Japan) 213
Wind-induced response of a tension leg platform
S. Ahmad, N. Islam, A. Ali (New Delhi, India) 225
Full-scale measurements of wind-induced vibration of a transmission line system in a mountainous area
Y. Momomura, H. Marukawa, T. Okamura, E. Hongo (Tokyo, Japan), T. Ohkuma (Yokohama, Japan) 241

Bridges and cable structures

Vortex shedding and wake-induced vibrations in single and bundle cables
A. Cigada, G. Diana, M. Falco, F. Fossati (Milan, Italy), A. Manenti (Brescia, Italy) 253
Prediction of aeroelastic stability of suspension bridges during erection
A. Larsen (Lyngby, Denmark) 265
Comparison of taut-strip and section-model-based approaches in long-span bridge aerodynamics
R.H. Scanlan, N.P. Jones, O. Lorendeaux (Baltimore, USA) 275
Mode-dependence of structural damping in cable-stayled bridges
H. Yamaguchi, M. Ito (Urawa, Japan) 289

Suppression of aerodynamic oscillations

Application of impact mass damper to a cable-stayed bridge pylon
K. Ogawa, (Akashi, Japan), T. Ide (Takamatsu, Japan), T. Saitou (Akashi, Japan) 301
Empirical aerodynamic damping function for tall buildings
Y. Watanabe (Tokyo, Japan), N. Isyumov, A.G. Davenport (London, Canada) 313
Modelling of base-isolated buildings with passive dampers under winds
A. Kareem (Notre Dame, USA) 323
Elastoplastic response of steel damper subjected to wind by the typhoon model
M. Yoshida, T. Hongo, K. Kondo (Tokyo, Japan), T. Fujii (Kyoto, Japan) 335

Design related-loads, responses and codes

Damping in structures
A.P. Jeary (Hong Kong, China) 345
Prediction of wind-induced response of a semi-rigid hanging roof
M. Suzuki, S. Sanada, Y. Hayami, S. Ban (Tokyo, Japan) 357
Wind-induced loads on metal edge flashings
J.R. McDonald, P.P. Sarkar, H. Gupta (Lubbock, USA) 367
Fatigue damage estimation of metal roof cladding subject of wind loading
Y.L. Xu (Hong Kong, China) 379
Performance of roof fasteners under simulated loading conditions
A. Baskaran, O. Dutt (Ottawa, Canada) 389
Wind loading and resistance of loose-laid roof paver systems
B. Bienkiewicz (Fort Collins, USA), Y. Sun (Corning, USA) 401
Equivalent time averaging in wind engineering
J.D. Holmes (Clayton, Australia) 411
Proper orthogonal decomposition study of approach wind-building pressure correlation
Y. Tamura (Atsugi, Japan), H. Ueda (Narashino, Japan), H. Kikuchi, K. Hibi (Tokyo, Japan), S. Suganuma (Atsugi, Japan), B. Bienkiewicz (Fort Collins, USA) 421
The wind climate of Hong Kong
A.P. Jeary (Hong Kong, China) 433
A refined method for calculating wind load combinations on open-framed structures
A. Nadeem (New Orleans, USA), M. Levitan (Baton Rouge, USA) 445

Uncertainties in codal recommendations for across-wind load analysis of R/C chimneys
D. Menon (Calicut, India), P.S. Rao (Madras, India) 455
Tornado risk model for transmission line design
R.V. Milford, A.M. Goliger (Pretoria, South Africa) 469

General

Knowledge-based expert system for damage assessment and vulnerability analysis of structures subjected to cyclones
T.L. Murlidharan, J. Durgaprasad, T.V.S.R.A. Rao (Madras, India) 479
Early wind engineering experiments in Denmark
G.L. Larose (Lyngby, Denmark), N. Franck (Hvidovre, Denmark) 493

Author index to volume 72 501